

Design, Construction, Start-up and Commissioning of a State-of-the-Art Water-Cooled Grate WtE-Plant for Örebro, Sweden

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Abstract

In 2001, SEGHERS was awarded the contract for the design and construction of the furnace and heat recovery system of a new, 330 tons per day WtE-plant in Orebrö, Sweden. A wide variety of municipal and industrial wastes (including electronic waste, demolition waste, car fluff, filters, plastic and rubber...) will be treated. The design point corresponds to an average heating value (HHV) of 13.1 MJ/kg (5600 Btu/Lb).

The first part of the paper addresses the engineering and construction phase of the project, which took 15 months in total. Key decisions and design options, including the choice and characteristics of a partially water-cooled grate, the use of the cooling water heat (with implications on plant efficiency) and the design features resulting in a low-NO_x WtE plant are discussed in detail.

The second part of the paper focuses on the construction and commissioning of the plant.

Finally, the plant performance is documented. The main results are compared with the guaranteed values and the differences are discussed. The performance of the water-cooled grate is compared to that of other WtE plants.